

## Copying Machine Improvement

NASA-supplied technical information helped a New England office equipment manufacturer solve a design problem and realize substantial savings in the process. Nashua Corporation, Nashua, New Hampshire manufactures, among other products, the recently introduced Model 2210 copying machine (below). The company's problem involved the valve on the liquid toner cartridge, shown being inserted in the 2210 copier (below right). Under extreme conditions of time and temperature, the valve bushing would secrete an effluent into the toner well; this caused a lightening of copies to

the point where they were unusable.

Looking for a plastic valve bushing material that could be produced by a low-cost injection molding process, Nashua Corporation requested assistance from the New England Research Application Center (NERAC), one of seven NASA Industrial Applications Centers. NERAC conducted a computer search of the NASA data base and was able to supply several technical reports on the properties and performance of candidate materials. This information proved to be the key to company development of a urethane valve bushing (bottom) which solved the problem and afforded a dramatic reduction in unit cost. Worldwide valve use is about a million a year and savings are estimated at \$250,000 annually.

